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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/669,424   | 09/25/2000  | Doron J. Holan       | 205513              | 4031             |
| 23460  | 7590        | 12/19/2003           | EXAMINER            |                  |
| LEYDIG VOIT & MAYER, LTD<br>TWO PRUDENTIAL PLAZA, SUITE 4900<br>180 NORTH STETSON AVENUE<br>CHICAGO, IL 60601-6780 |             |                      | WINDER, PATRICE L   |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2155                |                  |

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 09/669,424             | HOLAN ET AL.        |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | Patrice Winder         | 2155                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 25 September 2000.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-23 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ .                                   |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement filed May 1, 2001 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-7, 10-11, 15-16 and 20-21 are rejected under 35 U.S.C. 102(e) as being anticipated by King, 6,532,476 B1 (hereafter referred to as King).

4. Regarding claim 1, King taught a computer readable medium having computer executable instructions for performing steps to convert a service discovery stream into an N-ary tree, the service discovery stream having a list of nodes (list of nodes = DynArray, column 7, lines 63-67), each node having a data element, a data type and a

data size (column 7, lines 63-67), the service discovery stream having a stream size (column 7, lines 63-67), the steps comprising:

- a) retrieving the data type and the data size of one of the nodes (column 14, lines 49-51, 59-61);
- b) adding the node to a list head (column 14, lines 61-66);
- c) performing one of decrementing the stream size by the data size and incrementing the stream to the beginning of a next data element (column 14, lines 61-66); and
- d) obtaining a next node from the list of nodes (column 14, line 63 – column 15, line 3).

5. Regarding dependent claim 2, King taught having further computer-executable instructions for performing the steps of:

**verifying the service discovery stream;**

determining the number of nodes in the list of nodes (Table 1, column 8, line 15-20); creating a stack (Figures 6-7, column 12, lines 14-19); and setting the list head to a sibling list pointer of the node (column 8, lines 5-8).

6. Regarding dependent claim 3, King taught having further computer-executable instructions for performing the step of repeating steps a), b) and c) for the next node (column 14, line 63 - column 15, line 3).

7. Regarding dependent claim 4, King taught having further computer-executable instructions for performing the step of repeating steps a), b) and c) for each node in the list of nodes (column 14, line 63 – column 15, line 3).

8. Regarding dependent claim 5, King taught having further computer-executable instructions for performing the step of determining if the node is a leaf node (column 14, lines 63-66).

9. Regarding dependent claim 6, King taught further computer-executable instructions for performing the steps of:

if the node is a leaf node (column 15, lines 4-10):

adjusting the service discovery stream beyond the data element (column 14, lines 63-66);

determining if the stream size of the next node is zero (column 13, lines 30-35); and wherein the step of performing one of decrementing the stream size by the element size and incrementing the service discovery stream to the beginning of the next node comprises the step of decrementing the stream size (column 13, 30-35).

10. Regarding dependent claim 7, King taught having further computer-executable instructions for performing the steps of:

if the node is not a leaf node (column 14, lines 63-66):

determining if the data size is zero (column 13, lines 30-33, 35-38):

if the data size is not zero, the step of performing one of decrementing the stream size by the data size and incrementing the service discovery stream to the beginning of a next node comprises the step of incrementing the service discovery stream to the beginning of the next node (column 13, lines 30-33, 35-38); and repeating steps a), b), c), and d) (column 14, line 63-column 15, line 3).

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 8-9, 12-14, 17-19, and 22-23 rejected under 35 U.S.C. 103(a) as being unpatentable over King in view of Housel, III USPN 5,339,421(hereafter referred to as Housel).

14. Regarding dependent claim 8, King does not specifically teach the details of memory management associated with parsing the stream of data. However, Housel taught having further computer-executable instructions for performing the steps of: if the node is not a leaf node:

pushing the list head, the node, and the stream size into a stack (column 20, lines 26-37);

setting the list head to one of a sibling list pointer of the node and a container list head (column 20, lines 26-37); and

setting the stream size to one of a size of a parent node content size and a container stream size (column 20, lines 45-54).

15. Regarding dependent claim 9, King does not specifically teach the detail of memory management associated with parsing the stream. However, Housel taught having further computer-executable instructions for performing the steps of: if the stream size is zero (column 22, lines 20-35);

determining if the stack is empty (column 22, lines 20-35);

if the stack is not empty (column 22, line 57-column 23, line 8);

obtaining a popped list head, the next node, and a popped stream size from the stack (column 22, line 57-column 23, line 8);

setting a children pointer of the next node to the list head (column 23, line 9-21).

16. The language of claims 10-11, 15-16, 20-21 is substantially the same as previously rejected claims 1-6. Therefore claims 10-11, 15-16 and 20-21 are rejected on the same rationale as previous rejected claims 1-7.

17. The language of claims 12-14, 17-19, 22-23 is substantially the same as previously rejected claims 1-6. Therefore claims 10-11, 15-16 and 20-21 are rejected on the same rationale as previous rejected claims 8-9.

***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
19. Ferguson, USPN 5,121,493: taught a data sorting method into an indexed tree;
20. Zbikowski et al., USPN 5,578,360: taught a file system that stores data and meta-data in a like fashion;
21. Xu, USPN 6,011,871: taught a method and apparatus for compressing digital data by initializing a compression tree and creating a plurality of first layer nodes therein;
22. Garger et al., USPN 6,029,170: taught a method and apparatus for accessing and storing data in hybrid tree array data structure;
23. Khanna et al., USPN 6,243,389 B1: taught a method and apparatus for indexed data broadcast;
24. Chen et al., USPN 6,493,762 B1: taught index allocation for data broadcasting in accordance with predicted usage;
25. T. Imielinski et al., Energy Efficient Indexing on Air: taught two method, Indexing and Distributed Indexing, for organizing and accessing broadcast data on wireless communication channels; and
26. Ming-Syan Chen et al., Indexed Sequential Data Broadcasting in Wireless Mobile Computing: taught building indexing trees for sequential broadcasting in wireless mobile computing.

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27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrice Winder whose telephone number is (703) 305-3938. The examiner can normally be reached on Monday-Friday from 10:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam, can be reached on (703) 308-6662. The fax phone number(s) for this Group is official (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.



*Patrice Winder*  
**PATRICE WINDER**  
**PRIMARY EXAMINER**